

Management Update

**Rates of Participation in Alaska's Recreational Fisheries
1993-1999**

*Doug Vincent-Lang
and
Bob Walker*

July 2000

Alaska Department of Fish and Game
Division of Sport Fish
333 Raspberry Road
Anchorage, Alaska 99518

Table of Contents

	<u>Page</u>
List of Tables.....	i
List of Figures	ii
Introduction	1
Methods	1
Findings	2
Resident Anglers	2
Non-Resident Anglers	8
Discussion and Recommendations	15
Literature Cited.....	16

List of Tables

<u>Table</u>	<u>Page</u>
1. Number of residents and non-residents who purchased an Alaskan sport fishing license, 1993-1999...	4
2. Number of tourists visiting Alaska, 1993-1999	10

List of Figures

Figure	Page
1. Number of people who purchased an Alaskan sport fishing license, 1993-1999	3
2. Number of residents and non-residents who purchased an Alaskan sport fishing license, 1993-1999.....	4
3. Number of residents who purchased an Alaskan sport fishing license, 1993–1999	5
4. Percent of Alaska population who purchased a resident Alaskan sport fishing license, 1993-1999.....	5
5. Number of residents who purchased a resident Alaskan sport fishing license by region, 1993-1999.....	6
6. Number of residents who purchased a resident Alaskan sport fishing license by their sex, 1993-1999.....	6
7. Number of residents who purchased a resident Alaskan sport fishing license by their age, 1993-1999.....	7
8. Number of residents who purchased a resident Alaskan sport fishing license “x” of 7 years, 1993-1999.....	9
9. Revenue to the Fish and Game Fund from the sale of resident Alaskan sport fishing licenses, 1993-1999.....	9
10. Number of non-residents who purchased an Alaskan sport fishing license, 1993-1999.....	10
11. Number of non-resident tourists visiting Alaska, 1993-1999	11
12. Percent of non-resident tourists who purchased an Alaskan sport fishing, 1993-1999	11
13. Number of non-residents who purchased an Alaskan sport fishing license by their residency, 1993-1999.....	12
14. Number of non-residents who purchased an Alaskan sport fishing license by their sex, 1993-1999.....	12
15. Number of non-residents who purchased an Alaskan sport fishing license by their age, 1993-1999.....	13
16. Number of non-residents who purchased a resident Alaskan sport fishing license “x” of 7 years, 1993-1999.....	13
17. Revenue to the Fish and Game Fund from the sale of non-resident Alaskan sport fishing licenses, 1993-1999.....	14
18. Total revenue to the Fish and Game Fund from the sale of Alaskan sport fishing licenses, 1993-1999	14

Introduction

The mission of the Division of Sport Fish is to manage, protect, maintain, and extend Alaska's recreational fishery resources in the interest of the economy, consistent with the sustained yield principle and subject to allocations through the public regulatory process. Under this mission, one of the primary goals of the Division is to provide a diverse mix of recreational fishing opportunities that are of interest to Alaskans and visitors of our state.

Over the past several years, managers of Alaska's sport fisheries have increasingly been hearing that some anglers, both residents and visitors to the state, are dissatisfied with the sport fishing opportunities available to them. Recent data from the statewide harvest survey appear to substantiate this, indicating lower rates of participation in sport fishing throughout Alaska (Howe et. al. 2001). The causes and reasons for the declines and dissatisfaction are not known, but have been the focus of several newspaper articles and editorials.

The decreasing rates of participation and the causes behind the declines are of concern to managers of Alaska's recreational fisheries. To gain further insight into this issue we analyzed information available to the Division from the sale of sport fishing licenses to resident and non-residents through the years 1993 to 1999. The number of licenses sold each year is one index that can be used to track participation rates, and indirectly angler satisfaction with Alaska's sport fishing opportunities. License sales have the added benefit of also providing estimates of revenues to the Fish and Game Fund, a major funding source of the Division of Sport Fish. The historic license database can also be used to examine demographic profiles of license purchasers (e.g., their residency, sex, and age) that can be useful in evaluating trends in sport fishing participation.

This report summarizes information pertaining to license sales and participation rates by residents and non-residents in Alaska's sport fisheries from 1993 through 1999.

Methods

At the time of license purchase an angler is required to provide their name, address, sex, citizenship, and birth date. These data are annually entered in a computer database. We combined the license file databases for the years 1993 through 1999 and culled the resultant database to track unique individuals purchasing a license. Matching was based on driver's license numbers, social security numbers, dates of birth, addresses, and names. We then used this database to evaluate trends in resident and non-resident angler purchasing licenses over this period. Trends evaluated included the number of resident and non-resident anglers (as indexed by the number of licenses sold), the residency of the anglers, the age and sex of the anglers, and the revenues generated from the license sales.

Findings

Between 1993 and 1999 the number of people purchasing a sport fishing license increased from just over 370,000 to about 405,000 (Table 1, Figure 1). During 1993 a majority of the people purchasing a sport fishing license were residents (Table 1, Figure 2). However, beginning in 1994 and continuing through 1999, the number of non-residents purchasing a sport fishing license has outnumbered residents purchasing a license. Also noteworthy is the trend that the number of non-residents purchasing a sport fishing license has been generally increasing while the number of residents purchasing sport fishing license has been decreasing (Table 1, Figure 2).

Because of the differing trends between residents and non-residents, results for each group will be reported on separately below.

Resident Anglers¹

Between 1993 and 1999 the number of resident Alaskans purchasing a sport fishing license has decreased annually (Table 1, Figure 3). In 1993 nearly 191 thousand residents purchased a sport fishing license but by 1999 this number had dropped to just over 176 thousand, a drop of 8%. This occurred despite an increase in population of 25,000 over this period (Williams 1998, 2000). As such, the percent of the population purchasing a sport fishing license decreased over this period from about 33% in 1993 to just over 28% in 1999 (Figure 4).

The number of resident Alaskans purchasing a license decreased in all areas of the state (Figure 5). In southcentral Alaska the number of resident Alaskans purchasing a license decreased by over 10,000 (an 8% decline) between 1993 and 1999. In southeast Alaska decreased by about 3,000 (an 11% decline) and in interior Alaska the number decreased by about 2,000 (a 3% decline).

Males purchasing a sport fishing license outnumber females by about 2:1 (Figure 6). However, both sexes showed decreased purchases between 1993 and 1999 in about equal proportions (Figure 6).

The number of resident Alaskans between the ages of 16-29 and between 30-39 that bought fishing licenses decreased between 1993 and 1999 (Figure 7). In contrast, the number of resident Alaskans between the ages of 40-49 and between 50-60 increased between 1993 and 1999 (Figure 7). Residents under the age of 16 and over 60 do not need to purchase a license.

¹ Residents under the age of 16 and over 59 do not need to purchase a resident sport fishing license. Therefore, their participation is not reflected in this analysis.

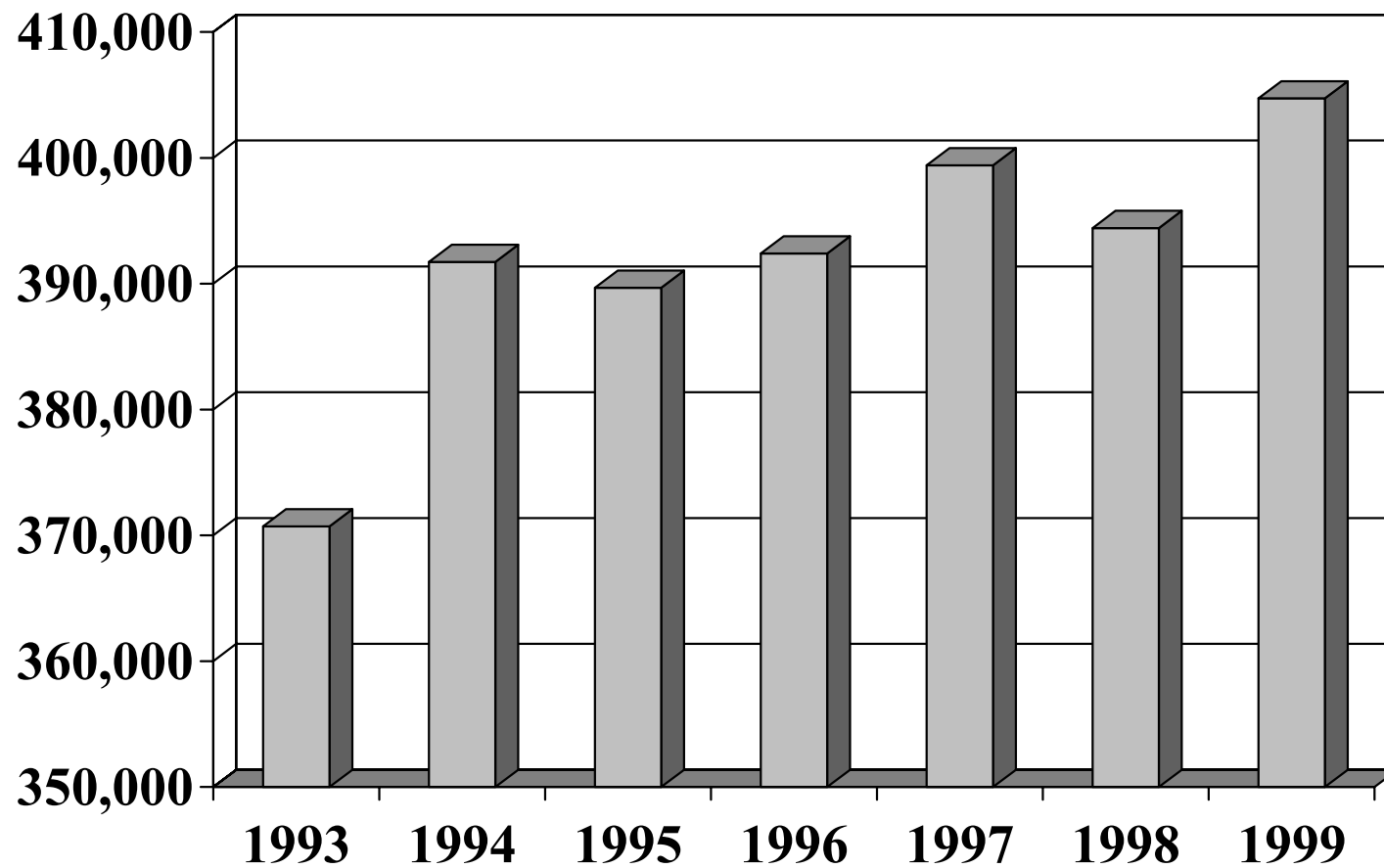


Figure 1.— Number of people who purchased an Alaskan sport fishing license, 1993 – 1999.

Table 1.—Number of residents and non-residents who purchased an Alaskan sport fishing license, 1993-1999.

Year	Residents	Non-residents	Both
1993	190,748	171,345	362,093
1994	191,435	192,951	384,386
1995	184,191	205,172	389,363
1996	183,407	208,693	392,100
1997	180,831	218,440	399,271
1998	177,307	216,913	394,220
1999	176,167	228,398	404,565

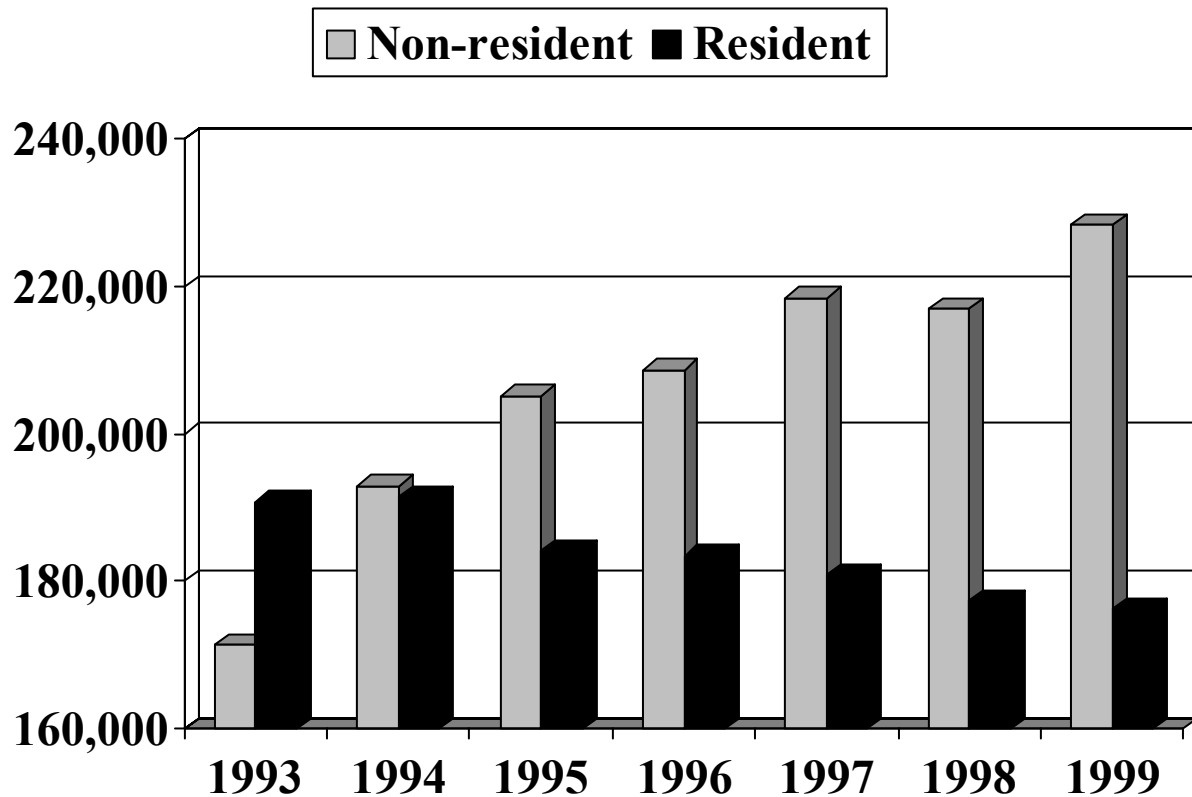


Figure 2.— Number of residents and non-residents who purchased an Alaskan sport fishing license, 1993–1999.

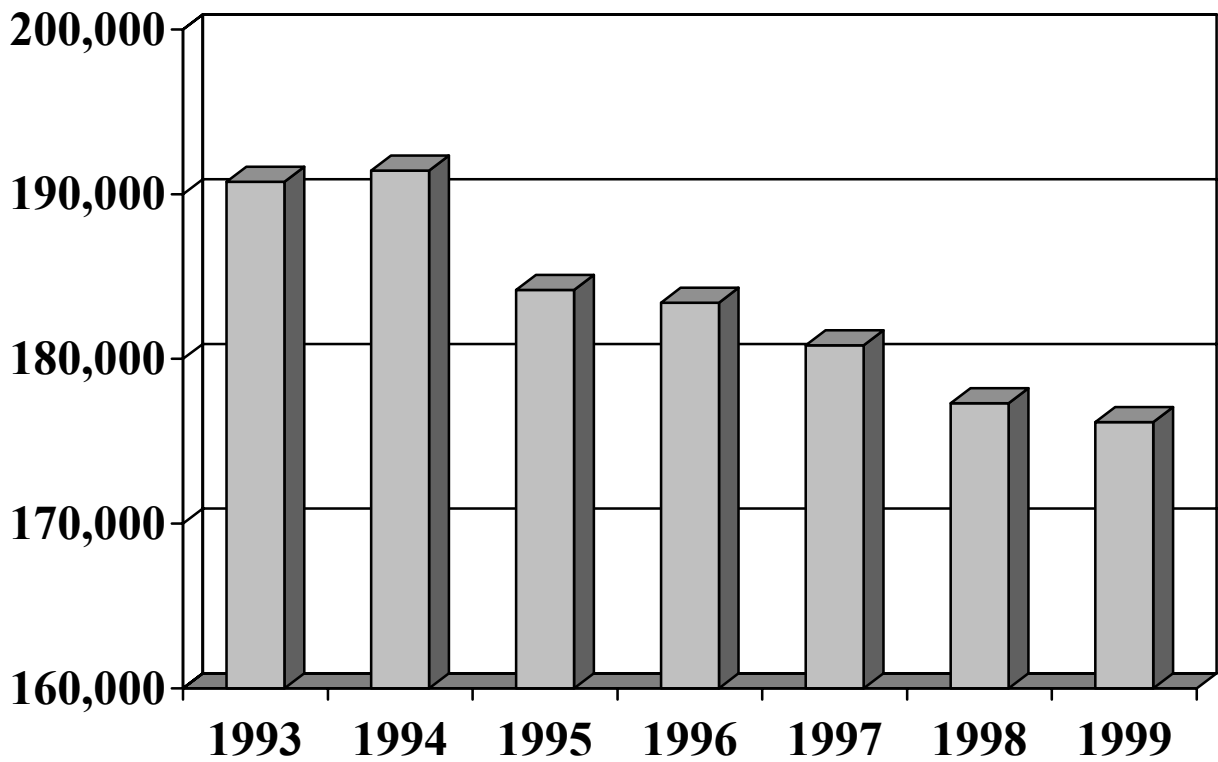


Figure 3.— Number of residents who purchased an Alaskan sport fishing license, 1993–1999.

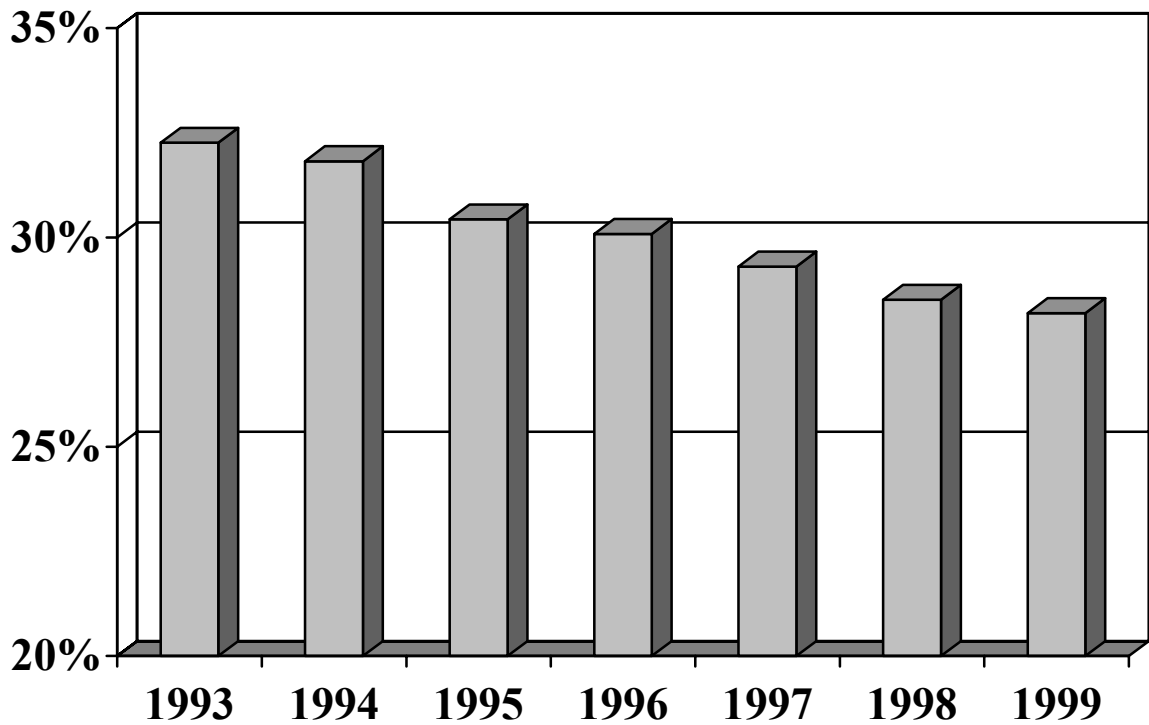


Figure 4.— Percent of Alaska population who purchased a resident Alaskan sport fishing license, 1993–1999.

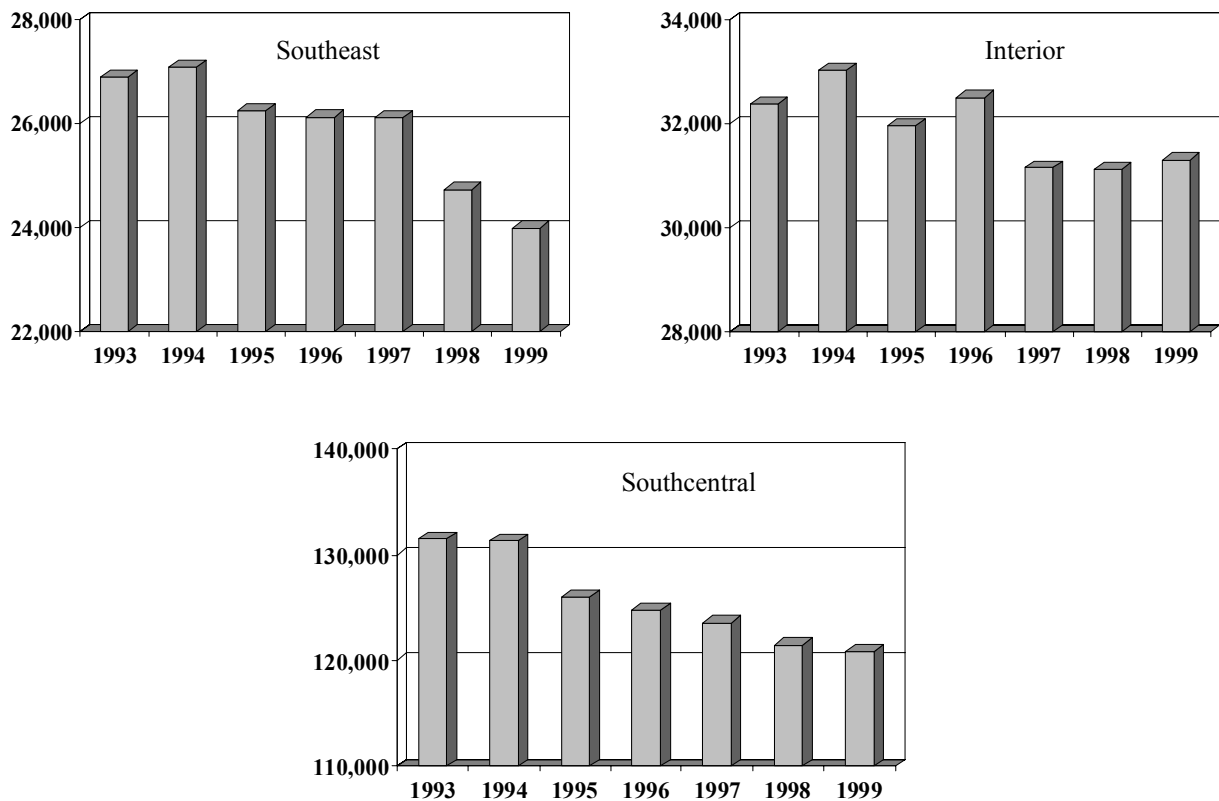


Figure 5.—Number of residents who purchased a resident Alaskan sport fishing license by region, 1993 – 1999.

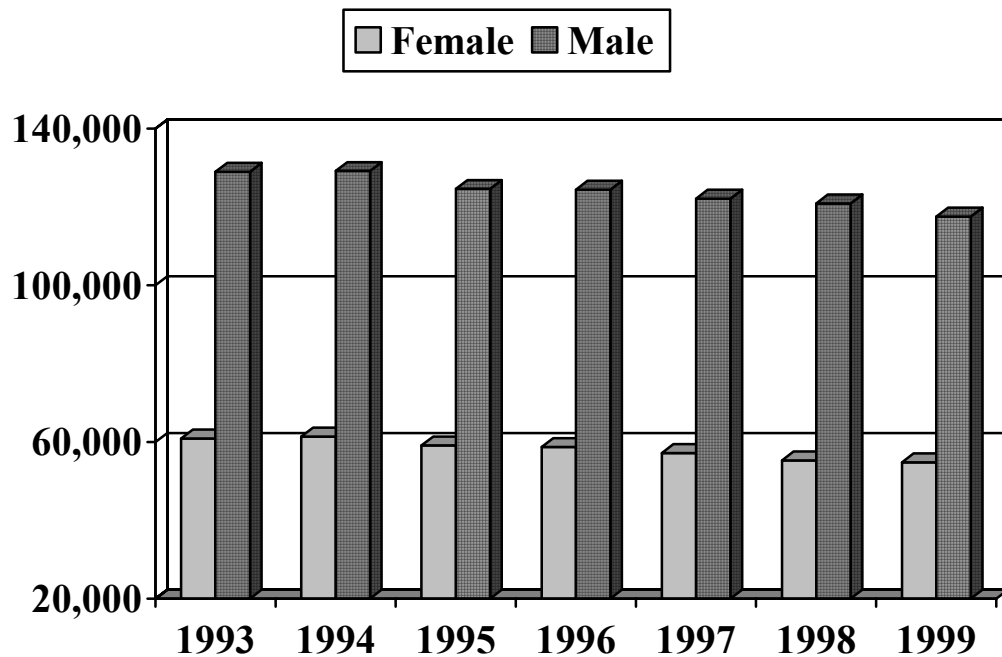


Figure 6.—Number of residents who purchased a resident Alaskan sport fishing license by their sex, 1993 -1999.

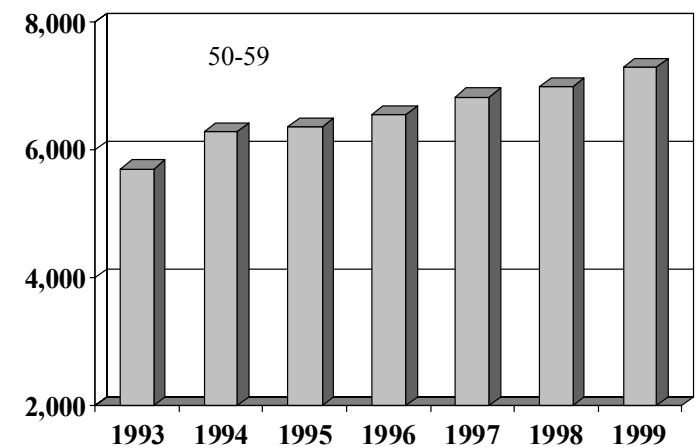
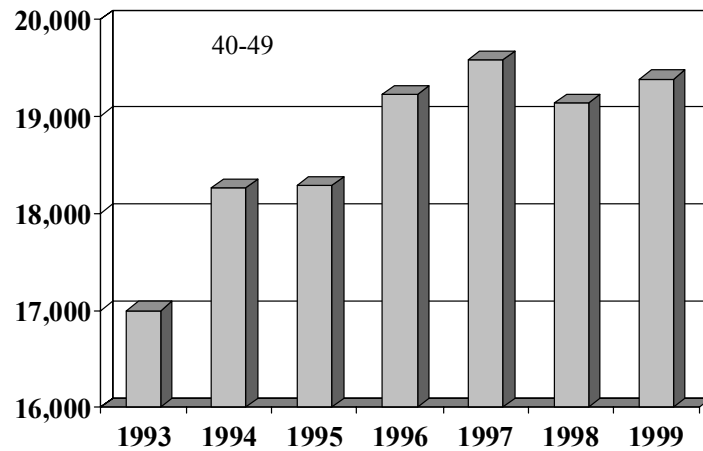
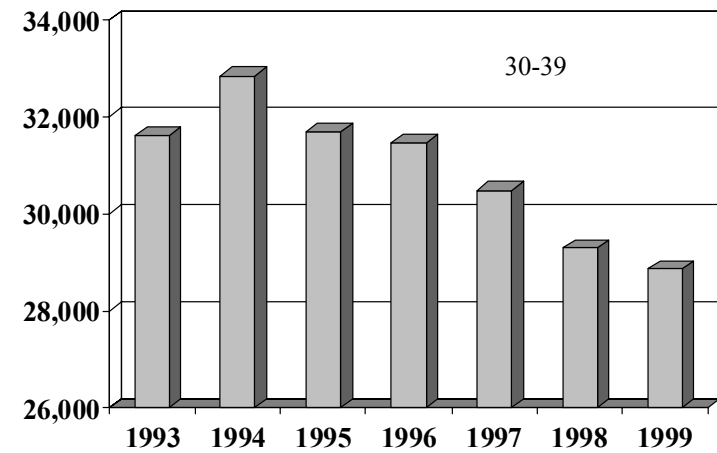
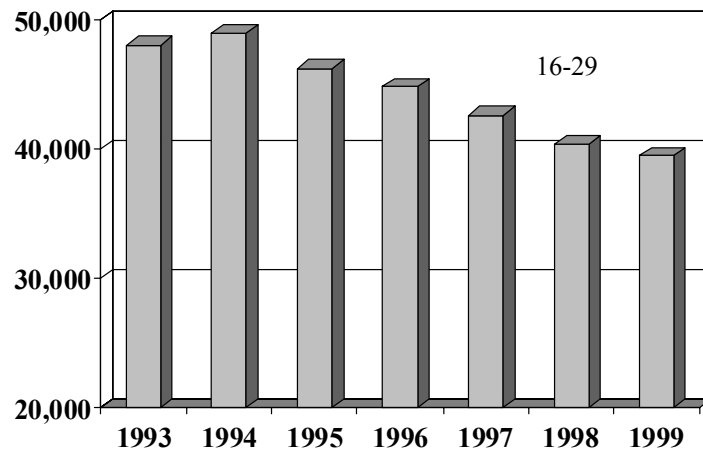


Figure 7.—Number of residents who purchased a resident Alaskan sport fishing license by their age, 1993 – 1999.

About 45% of the resident Alaskans who purchased a sport fishing license between 1993 and 1999 bought a license only one of those years (Figure 8). In contrast only 8% purchased a license in all 7 of the years (Figure 8).

As could be predicted based on the above information, revenues to the Fish and Game Fund from the sales of resident sport fishing licenses dropped by about 250,000 dollars between 1993 and 1999 (Figure 9). If revenues had remained at the 1993 levels, this represents a total loss of about \$820,000 of revenue to the Fish and Game Fund over this period.

Non-Resident Anglers

Between 1993 and 1999 the number of non-resident purchasing a sport fishing license increased annually (Table 1, Figure 10). In 1993 over 170,000 non-residents purchased a sport fishing license. By 1999 this number had increased to just less than 230,000, an increase of 33%.

Much of the increase in sales is likely attributable to an increase in tourism to Alaska. The number of tourists visiting Alaska between 1993 and 1999 increased annually, from about 850,000 in 1993 to about 1.2 million in 1999 (Table 2, Figure 11). However, the rate of increase has begun to decrease in recent years, indicating that the number of tourists visiting Alaska may be leveling off (Table 2).

The percent of tourists visiting Alaska that purchased a sport fishing license between 1993 and 1995 increased (Figure 12). However, since 1996 the percent purchasing a license has decreased each year, with just less than 19% purchasing a license in 1999.

Most of the increase in license sales came from non-residents from the other 49 U.S. states. This group made up 93-95% of non-resident anglers. The number of these non-resident visitors who purchased a license increased from about 163,000 in 1993 to over 213,000 in 1999 (Figure 13). Similarly, but to a lesser extent, the sales of sport fishing licenses to non-residents of foreign countries also increased between 1993 and 1999 (Figure 13).

Non-resident males purchasing a sport fishing license outnumber non-resident females by about 4:1 (Figure 14). Both sexes showed increased purchases between 1993 and 1999; however, the number of licenses sold to non-resident females increased faster than did the sales to males (Figure 14).

The number of non-residents purchasing a sport fishing license increased across all age categories except between the ages of 30-39 between 1993 and 1999 (Figure 15). Most non-residents who purchased a sport fishing license were older than 40 years of age (Figure 15).

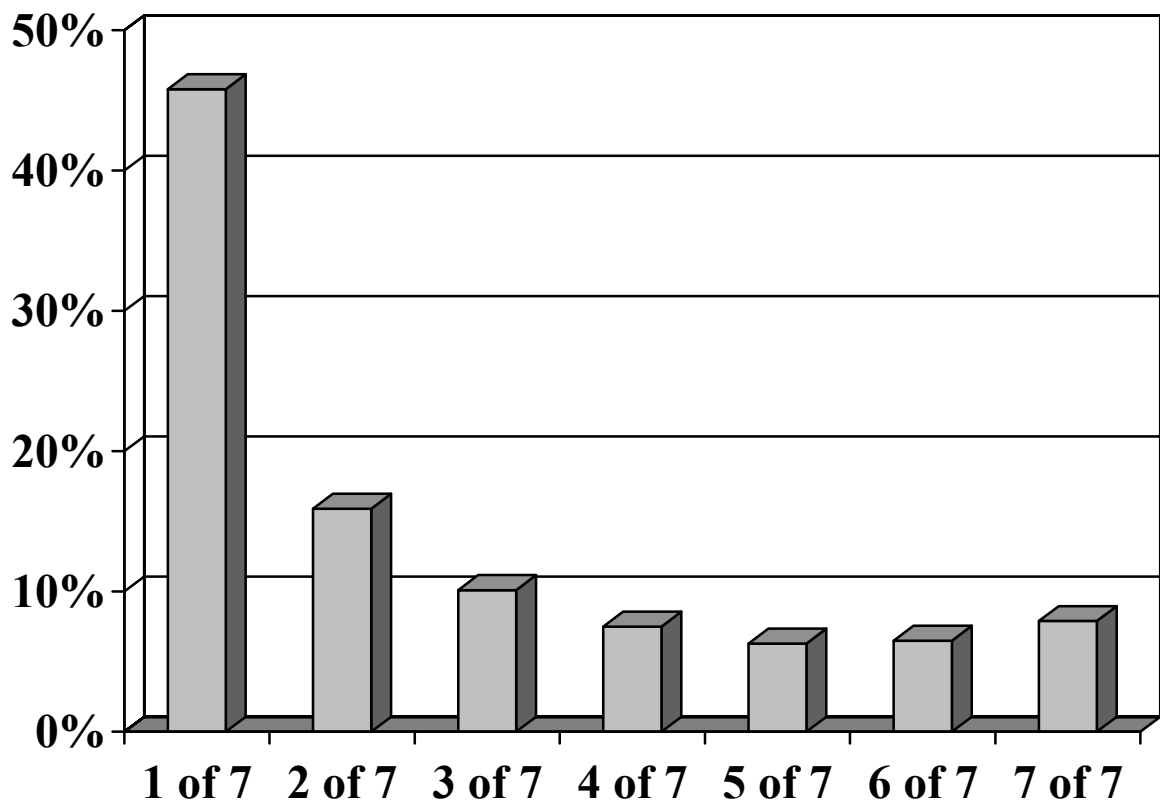


Figure 8. Number of residents who purchased a resident Alaskan sport fishing license “x” of 7 years, 1993 – 1999.

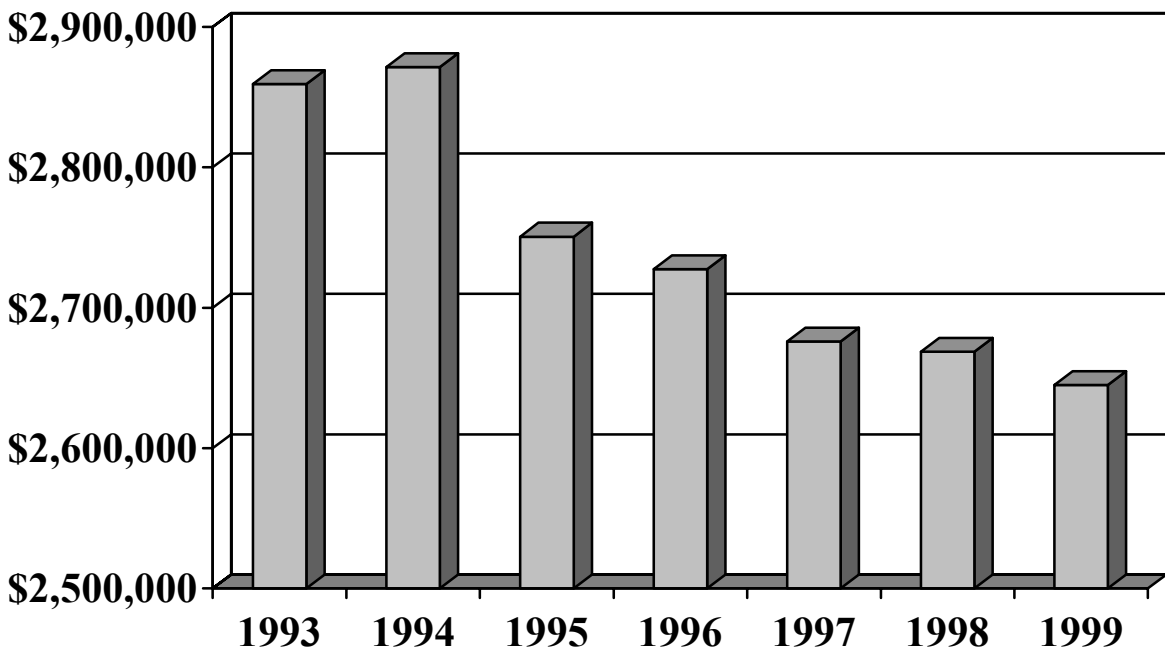


Figure 9. Revenue to the Fish and Game Fund from the sale of resident Alaskan sport fishing licenses, 1993 – 1999.

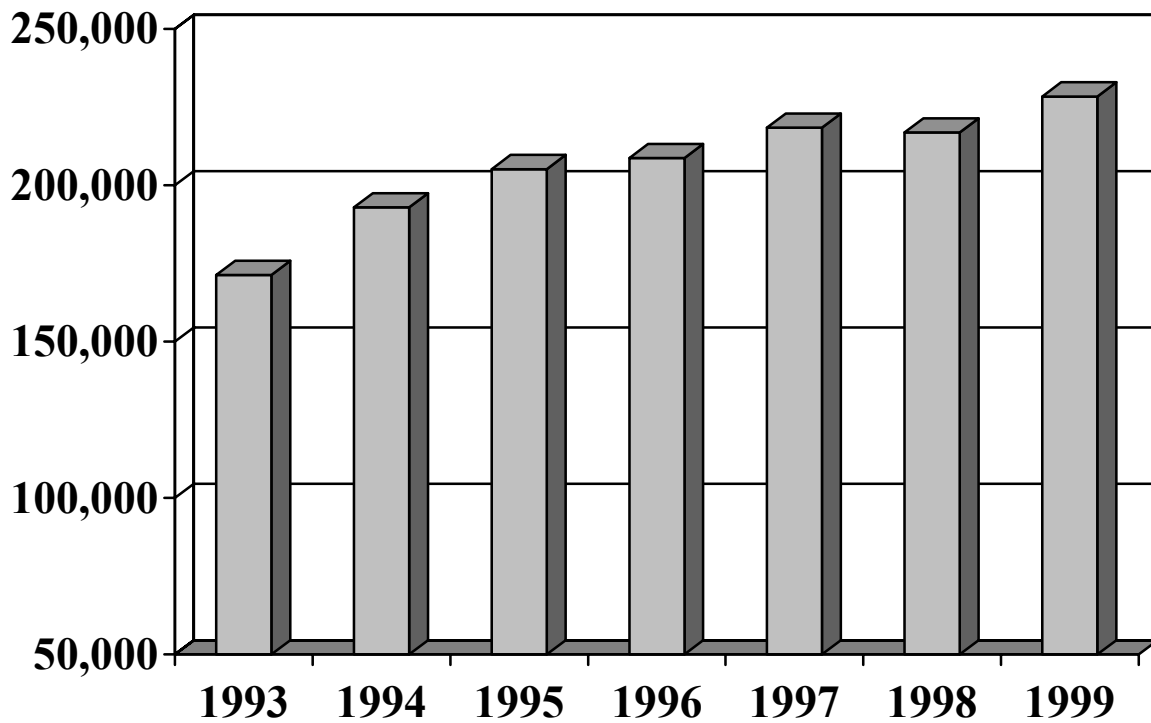


Figure 10.—Number of non-residents who purchased an Alaskan sport fishing license, 1993 – 1999.

Table 2.—Number of tourists visiting Alaska, 1993-1999.

Year	Number	Percent change
1993	846,200	+8.2%
1994	931,400	+10.1%
1995	967,100	+3.8%
1996	1,064,300	+10.1%
1997	1,120,600	+5.3%
1998	1,163,700	+3.9%
1999	1,199,000	+3.0%

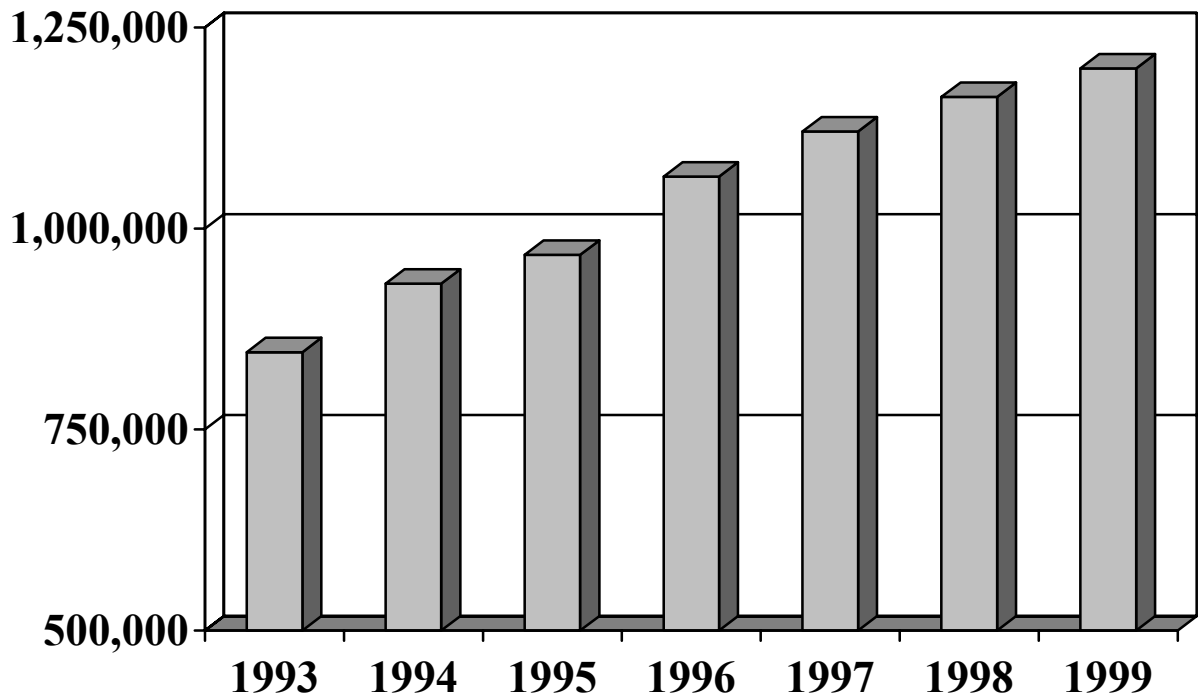


Figure 11.—Number of non-resident tourists visiting Alaska, 1993 – 1999.

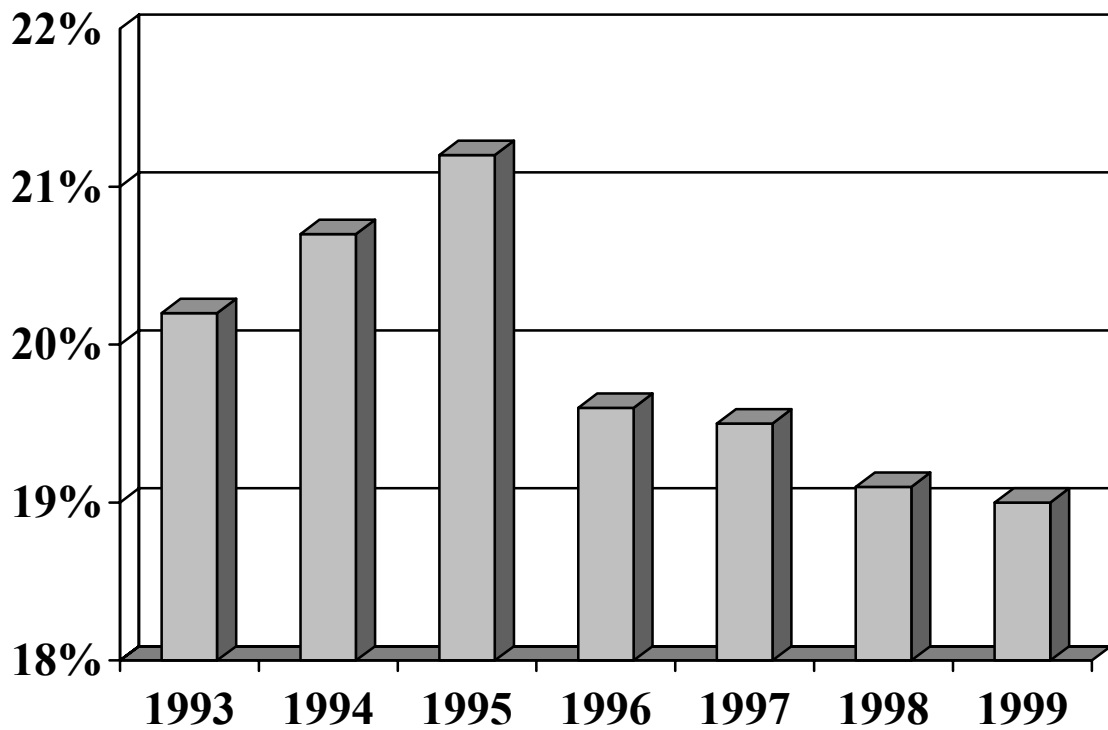


Figure 12.—Percent of non-resident tourists who purchased an Alaskan sport fishing license, 1993 – 1999.

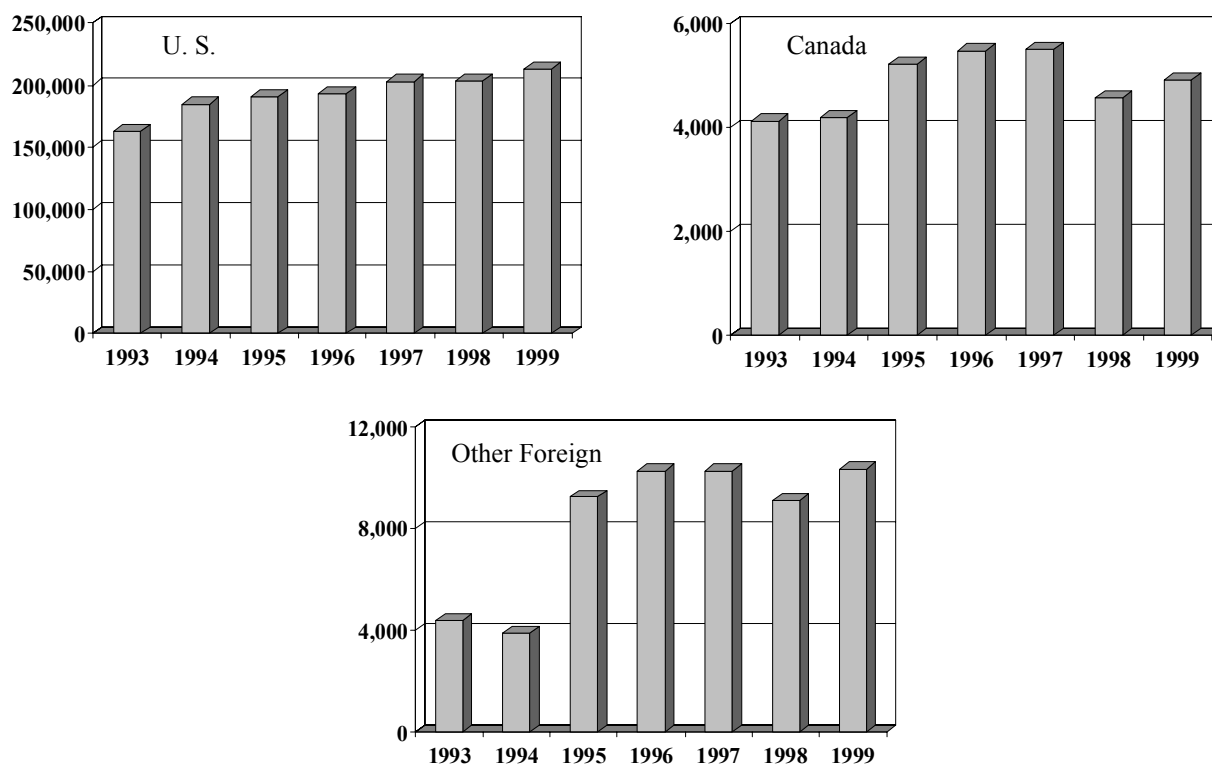


Figure 13. Number of non-residents who purchased an Alaskan sport fishing license by their residency, 1993 – 1999.

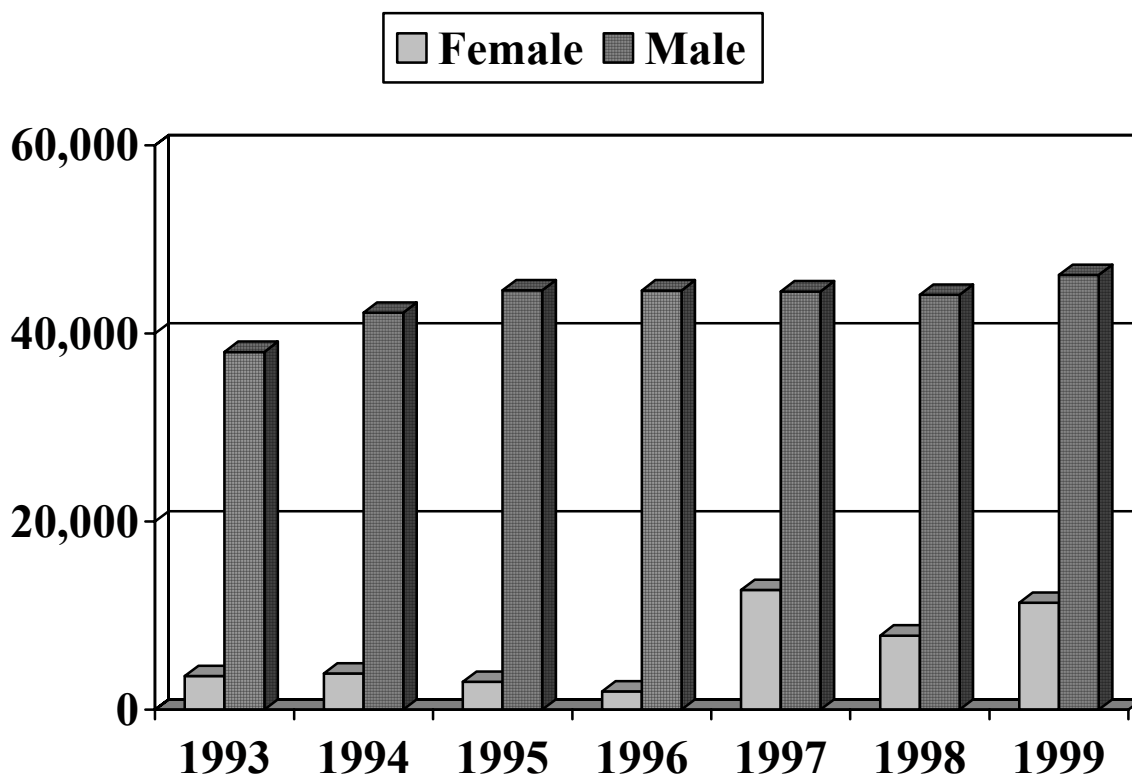


Figure 14.—Number of non-residents who purchased a resident Alaskan sport fishing license by their sex, 1993 – 1999.

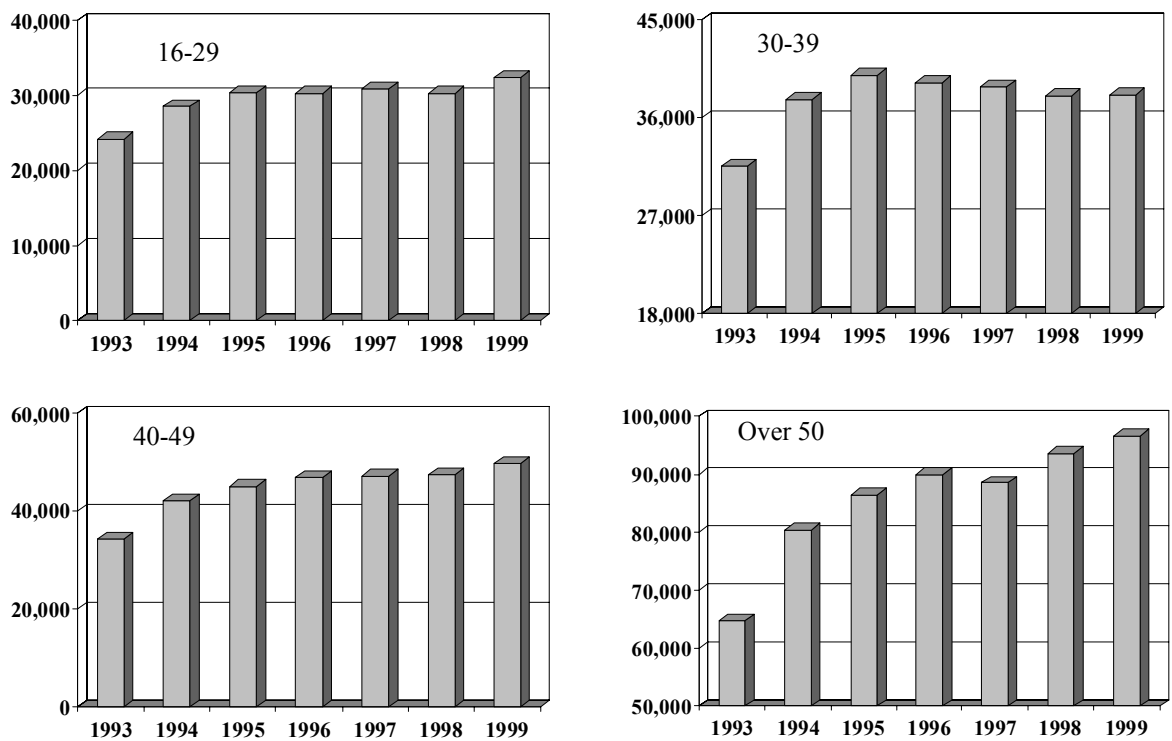


Figure 15.—Number of non-residents who purchased a resident Alaskan sport fishing license by their age, 1993 – 1999.

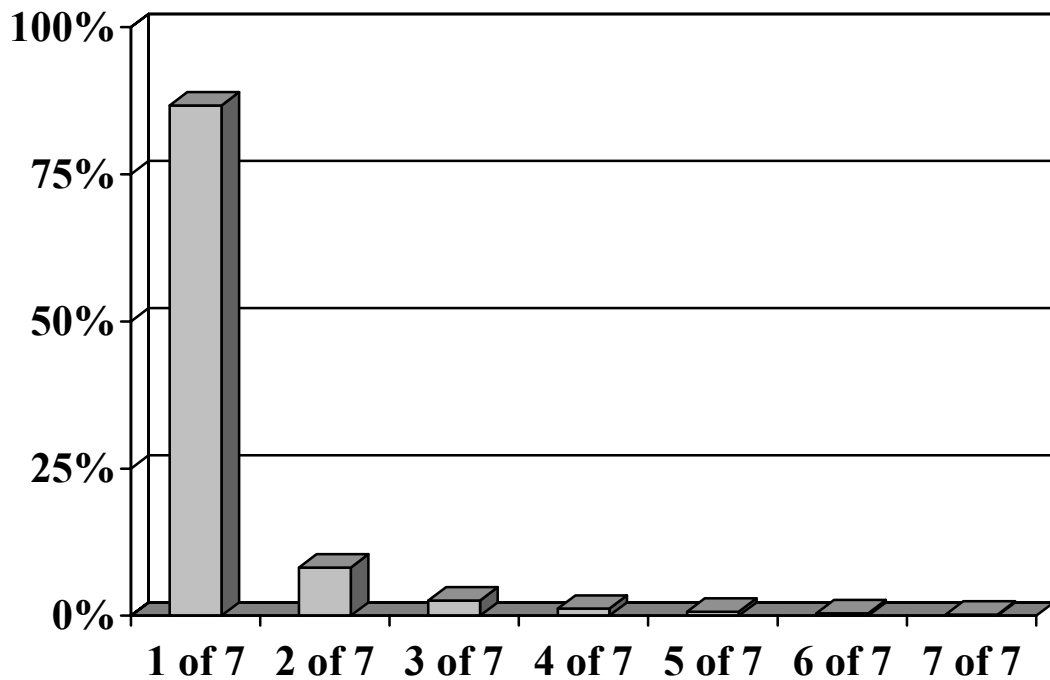


Figure 16.—Number of non-residents who purchased a resident Alaskan sport fishing license "x" of 7 years, 1993 – 1999.

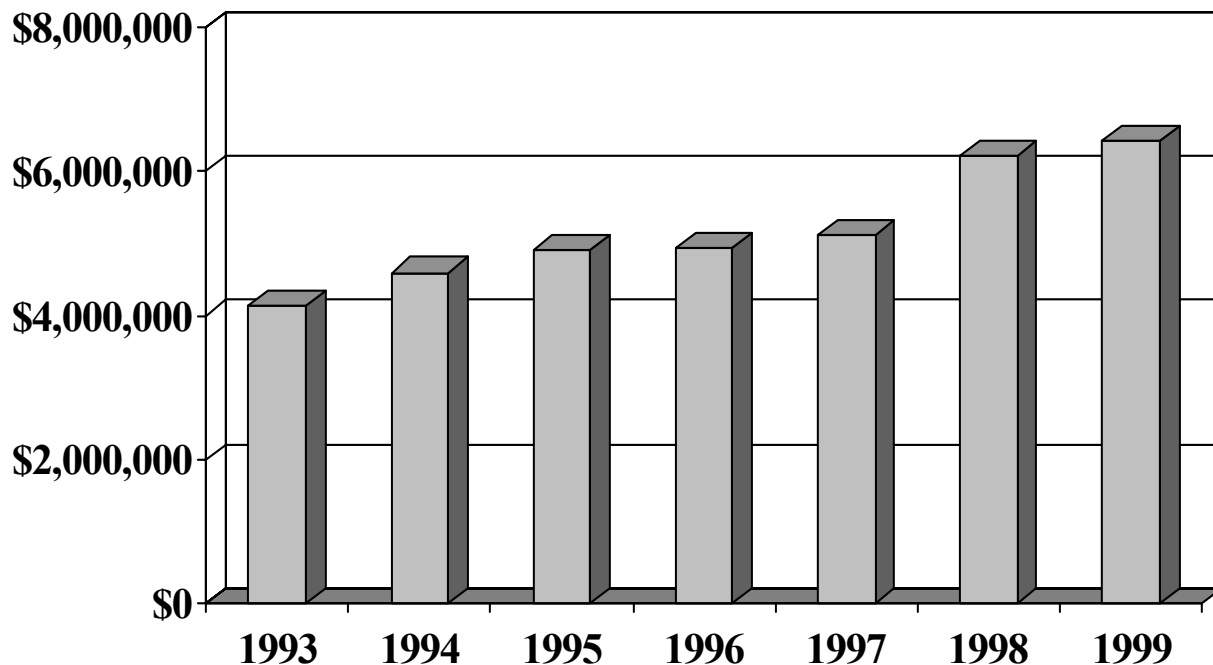


Figure 17.—Revenue to the Fish and Game Fund from the sale of non-resident Alaskan sport fishing licenses, 1993 – 1999.

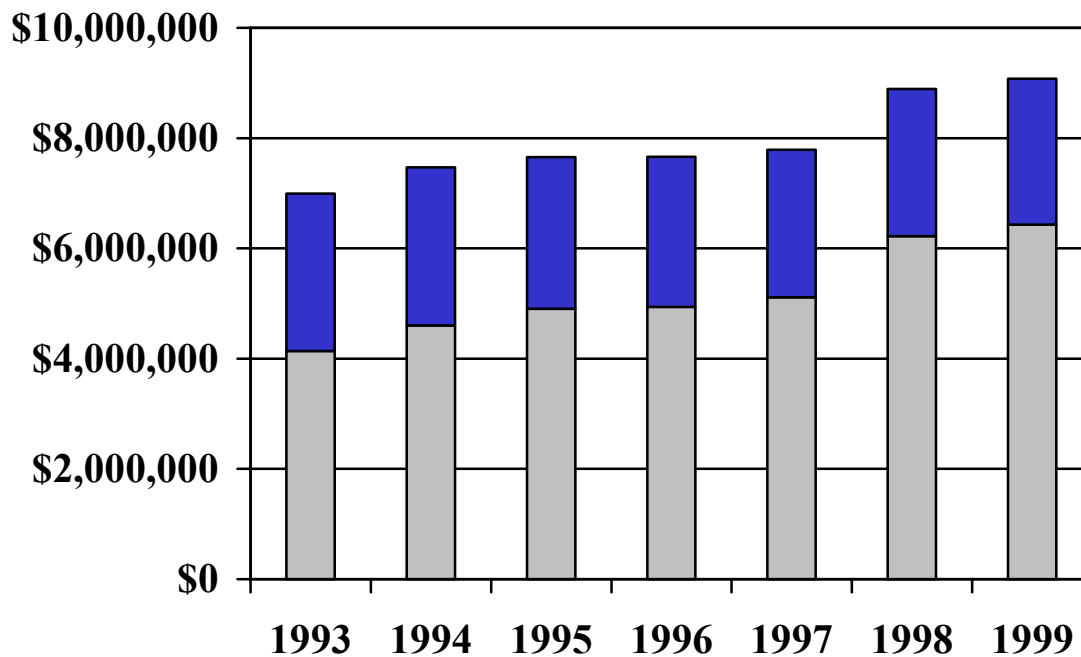


Figure 18.—Total revenue to the Fish and Game Fund from the sale of Alaskan sport fishing licenses, 1993 – 1999.

Discussion and Recommendations

Much to our concern, resident participation rates are dropping. The declines do not appear to be geographically based given that resident license sales are declining throughout all areas of Alaska. Also, the declines do not appear to be gender based as licenses sales are decreasing for both males and females. Finally, we saw that license sales were decreasing for residents younger than the age of 45. In contrast, licenses sales were increasing for people older than 45.

Also surprising was the fact that few residents purchased a sport fishing license more than twice over a six year period. Only one-half of the residents purchasing a license in one year purchased another license within the next five years. This suggested to us that most Alaskans are not repeat participants in sport fishing or that many opportunistically purchase their licenses.

The trends in resident participation rates noted in this report are troubling. The reasons behind the declines in resident participation rates are unknown and cannot be identified from the data used to identify the trends. However, it can be speculated that sport fishing is not competing favorably with the demands of school, career, and family or other leisure opportunities. It may also be that some residents are not happy with the range of sport fishing opportunities that are available to them.

In contrast, non-resident participation rates have been increasing. This has likely been a result of increasing tourism to Alaska and marketing of sport fishing to these tourists. However, there are signs suggesting that the rate of increase in non-resident participation is beginning to level off as the number of tourists visiting Alaska is beginning to level off. Also, the percent of tourists purchasing a license is beginning to drop, suggesting that tourists visiting Alaska are selecting to not participate in sport fishing opportunities available to them. This suggests that non-resident participation rates may be beginning to stabilize. If tourism begins to decline due to a downturn in the national economy or tourists selecting another location to vacation in, non-resident participation may actually begin to decline. Factors affecting the perceived availability of sport fishing opportunities, especially for king salmon and halibut, will likely influence non-resident participation rates in the future.

In combination, it appears the Division is not achieving its goal of increasing sport fishing participation rates. In response we are beginning to explore the changing participation trends using a series of surveys aimed at assessing angler satisfaction with their angling opportunities. The Division is currently designing a survey to explore, in more detail, the reasons behind the trends in resident participation rates. Based on the findings of these studies we may wish to change the mix of opportunities available to the angling public or begin to promote the opportunities that are currently available.

Last, the trends noted in these report pose a serious threat to the Fish and Game Fund. This fund provides direct and matching money for management of Alaska's sport fisheries. If we are to continue to our past successes in stock assessment and management we must look to stabilize the contributions to this fund,

especially from the sale of resident licenses given potential volatility in non-resident license sales. We must also consider, given the susceptibility of license revenue contributions to this fund, looking at diversifying our income stream.

Literature Cited

- Howe, A. L., R. J. Walker, C. Olnes, K. Sundet, and A. E. Bingham. 2001. Participation, catch, and harvest in Alaska sport fisheries during 1998. Alaska Department of Fish and Game, Fishery Data Series No. 99-41 (Revised), Anchorage.
- Williams, G. 1998. Population projections. Alaska Economic Trends, Volume 18, Number 9. pp 3-22.
- Williams, G. 2000. Alaska population overview: 1999 estimates. Alaska Department of Labor and Workforce Development. Juneau, Alaska.